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NDOW 1992b

NEVADA DEPARTMENT OF WILDLIFE
STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS
F-20-28
1992

STREAM FISHERY MANAGEMENT

JOB NUMBER 206

JOB PROGRESS REPORT
Stream Fishery Management
1992

List of Appendixes

<u>Number</u>	<u>Title</u>	<u>Page</u>
I	Summary of The 1992 USFS-NDOW Cooperative Stream Survey and Inventory, NDOW Region II (Elko County).	11
II	Summary of The 1992 USFS-NDOW Cooperative Stream Survey and Inventory, NDOW Region II (White Pine County).	12

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Stream Fishery Management
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Table of Contents

<u>Contents</u>	<u>Page</u>
SUMMARY	1
OBJECTIVES	2
PROCEDURES	3
FINDINGS	
Interagency Stream Survey Project	4
Stream Habitat/Fish Population Evaluation	6
Stream Rehabilitation Program	8
Riverine Riparian Classification	8
Stream Population Management	9
RECOMMENDATIONS	10

JOB PROGRESS REPORT

State: Nevada

Project No.: F-20-28 Project Title: Statewide Fisheries Program

Job No.: 206 Job Title: Stream Fishery Management

Period Covered: January 1, 1992 through December 31, 1992

SUMMARY

Intensive surveys were conducted only within the Jarbidge River Drainage on Humboldt National Forest lands. Twelve individual streams and two stream forks encompassing 41.6 miles were surveyed intensively. Another four streams and 5.3 miles were ocularized and declared to have insufficient flow for survey.

Native rainbow/redband trout were found in ten named creeks or forks and in an unnamed tributary of Deer Creek. Total occupied range above the Forest Boundary amounted to 22.0 miles. One bull trout was collected at a sample station in Jack Creek and another bull trout that was seen between two stations in upper Pine Creek was collected for identification. Bull trout were found in the two tributaries of the West Fork of the Jarbidge River that had the largest flow volume of the streams surveyed. Stream flows were generally very low once again in 1992, and population densities reflected the ongoing drought.

Habitat conditions documented in survey efforts, especially riparian scores, closely reflected the degree of ungulate damage noted. HCI values revealed 26.9 percent of the streams surveyed in "poor" condition. Streams rated "fair" comprised 51.3 percent of the sample and "good" condition stream accounted for 21.8 percent. No streams surveyed in 1992 were found to be in "excellent" condition.

An intensive survey of Cleve Creek and its tributaries in White Pine County revealed acceptable habitat conditions and healthy fish populations. Trout densities of between 968 and 1232 fish per mile were documented through electrofishing surveys.

The Riverine Riparian Classification System was applied to the Bruneau River project area, in an effort to qualify existing and potential habitat condition. Data and analysis will be used to develop management alternatives for the area as well prescribe monitoring. Type descriptions also proved invaluable for describing desired future condition, the management objective.

There were seven checks for anglers on the South Fork of the Humboldt River and one check on Lamoille Creek completed during the spring period. One angler was creeled on the West Fork of the Jarbidge River.

OBJECTIVES

Interagency Stream Survey Project

To conduct intensive habitat and fish population surveys on about 100 miles of selected streams in the West Fork Jarbidge River Drainage, eastslope of the Ruby Mountains, and Rock Creek Drainage.

To conduct intensive habitat and fish population surveys on upper White River (that portion above State Highway 6).

To cooperate with the Battle Mountain, Elko, and Ely Districts of the Bureau of Land Management in resurvey efforts on streams within their areas of jurisdiction.

Stream Habitat/Fish Population Evaluation

To evaluate the current status of selected streams in the Schell Creek Range, White Pine County, with emphasis on identifying streams in need of habitat improvement.

To appraise habitat condition and fish population status and provide comprehensive management recommendations in response to requests for input from land management agencies and

To inventory habitat conditions of riparian areas within the Ward Charcoal Ovens State Park and develop a draft recovery plan.

To evaluate the status of fish populations in selected popular recreational streams in White Pine County relative to recent drought conditions.

To collect opportunistic creel census on White Pine County streams to assess angler use and harvest.

Stream Rehabilitation Program

To remain receptive to proposals from private land owners and land management agencies for Department participation in stream rehabilitation projects, and upon receipt, to explore Department potentials for involvement in said projects.

To accumulate and organize a data base of current information regarding stream management, riparian management, and associated range management issues which will aid in the formation of sound management recommendations and decisions.

Riverine Riparian Classification

To review and make recommendations on draft Riverine Riparian Classification System documents as submitted.

To develop pilot projects to implement, test, and validate the classification system.

To coordinate a training session to familiarize field biologists with the classification system and its role in the land management decision making process.

Stream Population Management

To conduct creel census on Region II streams when expedient to assess angler use and harvest.

To submit for public review and Commission approval the South Fork Humboldt River Fisheries Management Plan.

PROCEDURES

Angler Use and Harvest Evaluation

Creel surveys are accomplished incident to other field activities unless special emphasis is prescribed. Data gathered includes anglers, location fished, effort, and harvest. Harvest data includes species, lengths, representative weights and assessment of body condition.

Inventory, Protect and Improve Habitat

Intensive surveys of fish populations and habitats conducted under the provisions of the Interagency Agreement for the Nevada Cooperative Stream Survey Project are accomplished in accordance with directives of the steering committee. Statewide survey priorities are set by the steering committee, however, actual stream work is scheduled locally in accordance with prevailing conditions of access and runoff.

Gift/Grant Funding is supplied as outlined in the Stream Survey MOU.

Reports are completed in the standard format developed for Department files. Raw data for USFS GAWS assimilation was provided in an IBM compatible format by January 10, 1993, and finalized reports will be provided to cooperating agencies by May 1, 1993.

Habitat condition and fish population status surveys conducted for Department programs were done in the most expedient manner, in such a way as to provide the necessary information and data to make complete and relevant recommendations. Most often these recommendations will be administered by the Habitat Division.

Fisheries Management Planning

Fisheries management plans will be prepared using the best information available and in a manner prescribed by the Department of Wildlife Fisheries Management Plans Program and Procedure.

Technical Assistance and Coordination

Matters pertaining to the management of Region II streams were addressed as received and prioritized.

Report Preparation and Evaluation

Field trip reports, job progress reports, public presentations, and special reports were completed in compliance with standard format.

FINDINGS

Interagency Stream Survey Project

The USFS-NDOW Cooperative Stream Survey and Inventory Team in NDOW's administrative Region II consisted of the principle investigator serving as crew leader and three temporary personnel. The summer help had no previous fish or wildlife survey experience. More qualified personnel were not available for hire due to the delay in State hire authorization. The field season extended from June 8 through September 10 for all but two summer hires who were only able to work until August 20. Hence, about 21% of the surveyed sites were completed by the crew leader and one assistant. A four person crew surveyed all but one of the remaining sites.

Stream survey methodology followed procedures outlined for the GAWS Level III survey in the USFS-Region 4 Habitat Surveys Handbook. On locating a sample station from the preplotted, USGS 7.5 minute topographic map, the team would conduct a one-pass fish capture effort with a Dirigo 700 backpack electroshocker over a distance of 100 feet. Captured fish were placed in a bucket, identified, measured (fork length), weighed and returned to the stream. Game fish were examined for relative body condition. Fish seen escaping the electric field or otherwise lost during capture or processing were recorded. Relative quantitative and qualitative information on aquatic invertebrates were assessed at each survey site via substrate particle and stream observation. Habitat transects began 100 feet upstream of the beginning of each station.

Stream measurements to determine discharge were taken over a uniform length of flowing water where, such an area could be found at a station. Stream velocity was determined by the average of several floating object time trials. Air and water temperature were taken at each station using a pocket mercury thermometer.

Fish population data was summarized for each stream. GAWS habitat data was entered and analyzed on IBM compatible PC and backed-up on floppy disc. A report will be prepared for each surveyed stream. Computer data, reports and slides will be provided to the Humboldt National Forest upon completion.

Intensive surveys were conducted only within the Jarbidge River Drainage on Humboldt National Forest lands. Twelve individual streams and two stream forks encompassing 41.6 miles were surveyed intensively. Another four streams and 5.3 miles were oculared and declared to have insufficient flow for survey (Appendix I). Native rainbow/redband trout were found in ten named creeks or forks and in an unnamed tributary of Deer Creek. Total occupied range above the Forest Boundary amounted to 22.0 miles. One bull trout was collected at a sample station in Jack Creek and another bull trout that was seen between two stations in upper Pine Creek was collected for identification. Bull trout were found in the two tributaries of the West Fork of the Jarbidge River that had the largest flow volume of the streams surveyed. Sculpin were sampled only at the lowest sample site in Pine Creek.

The Snake River Basin streamflow forecast made on April 1, 1992, was 30% of average (USDA, 1992). Of particular significance was that 1992 is only one of seven dry years in which Bear Creek (7800 ft elevation) was without snow on May 1 (Elko Free Press, May 9, 1992). Throughout the early to mid-June survey of Bear Creek the streamflow was described as being "low". Maximum measured discharge during the survey of Bear Creek was 1.38 cfs. Of surveyed streams only lower Jack Creek (1.39 cfs) and lower Pine Creek (1.70 cfs) had greater discharges as measured on August 12, 1992 and September 1, 1992, respectively. Drought conditions are known to have a depressing effect on fish standing crops.

The calculated fisheries Habitat Condition Index (HCI) rating for the 14 intensively surveyed streams and one unnamed tributary is summarized below:

HCI % OPTIMUM	RATING	NO. OF STREAMS	NO. OF MILES	% OF MILES
50-59	POOR	4	11.1	26.9
60-69	FAIR	6	21.2	51.3
70-79	GOOD	5	9.0	21.8

All of the "poor" rated streams were located within the USFS, Buck Creek C&H grazing allotment. Streambank damage caused by cattle was "heavy" in the Buck Creek drainage and along Dorsey Creek. Moderate damage was evident along Columbet Creek and Corral Creek which are in the same grazing allotment.

Ungulate damage was negligible in all other surveyed streams. Other than Deer Creek, livestock grazing is not allowed in the West Fork Jarbidge River Drainage.

Riparian condition scores mirrored ungulate damage ratings. Those streams having negligible damage were nearly all (96%) rated "good". Contrarily, sixty-four percent of the streams that were damaged by livestock had riparian zones in "fair" condition. Only two sites (9%) rated "good" and six sites were in "poor" or "very poor" condition. With the exception of Deer Creek, the streams within the Buck Creek C&H Allotment are being deleteriously impacted by cattle.

Bull trout have only a minimal presence in two tributaries of the West Fork Jarbidge River. The specimen found in Pine Creek represents a previously unknown stream population of bull trout. A bull trout was last collected in Jack Creek on August 16, 1974.

A GAWS LEVEL III habitat survey and a population survey using a single pass electroshocking survey was completed on upper White River. A summary of survey results is provided in APPENDIX II. All survey data has been summarized or entered into the GAWS computer program. Final reports will be completed as time allows.

Stream Habitat/Fish Population Evaluation

Requests for fisheries review and comment were handled in a timely and appropriate manner. Individual projects requiring fisheries input included the following:

MINING INPUT:

- BLM - IMC tailings pond proposals
- BLM - Gold Quarry Mine Expansion Scoping
- JBR - T&E fish species occurrence in the Independence and Bull Run Mt

GRAZING INPUT:

- USFS - North Ruby Complex AMP Revision CRMP involvement
- USFS - Jack Ck & Snow Canyon S&G Allotments - Scoping
- USFS - Pearl Ck CRMP involvement
- USFS - Bruneau R. ID Team involvement

OTHER INPUT:

- BLM - Bull trout status
- BLM - Beaver Ck fence proposal
- USFS - Jones Land Exchange
- USFS - Redband trout distribution
- JBR - Lahontan tui chub incidence

While conducting population surveys in the Cleve Creek system habitat problems related to livestock use were noted and reported to the range staff of the Ely District of the Humboldt National Forest.

The draft South Fork Humboldt River Fisheries Management Plan has not gone through Fisheries Staff review and hence, subsequent review is not likely.

RECOMMENDATIONS

Interagency Stream Survey Project

Stream surveys should continue in 1993 in the East Fork Jarbidge River Drainage to further delineate bull trout distribution and habitat condition.

The Buck Creek C&H Allotment management needs revised so as to alleviate abuses on the stream and riparian areas and allow much needed improvements.

Stream Habitat/Fish Population Evaluation

The habitat conditions along the upper North Fork and upper South Fork of Cleve Creek should be determined relative to current livestock grazing practices.

Stream Population Management

Angler checks on the South Fork of the Humboldt River should be conducted in springtime again in 1993. Fishing regulation violators in the special use area should be given citations in 1993.

The South Fork Humboldt River Fisheries Management Plan should be sent out for review, comments; approved by Commission and implemented.

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Date: February 22, 1993

APPENDIX I

SUMMARY OF THE 1992 USFS-NDOW COOPERATIVE STREAM SURVEY
AND INVENTORY, NDOW REGION II (ELKO COUNTY)

DRAINAGE, STREAM	SURVEY MILES	HAB STA	HCI	PERCENT UNGLULATE USE	DISCHARGE RANGE(CFS)	FISH POP SPECIES, STATIONS PRESENT	TROUT /MILE	OCCUPIED MILES	PERCENT EMBEDDEDNESS
WFJRD	4.3	7	78.5	0	0.30-1.38	6	264	1.4	5.9
WFJRD	3.4	5	52.1	50.2	0.03-0.13	5	11	3.4	78.8
BCD	1.6	3	56.5	18.3	0.08-0.17	3	53	1.6	34.4
BCD	3.0	3	51.5	52.3	0.08-0.14	3	633	0.9	59.5
JRD	1.3	2	66.3	43.7	0.01-0.08	2	-	0	39.5
BCD	4.0	4	63.6	37.3	0.03-0.13	4	48	2.3	37.3
BCD	2.0	0	--	--	Dry	0	-	0	-
WFJRD	4.4	5	65.8	3.5	0.27-0.82	5	513	4.4	18.4
	0.9	2	70.8	16.1	0.18-0.21	2	290	0.8	16.3
JRD	3.1	5	50.7	50.2	0.06-0.20	5	-	0	46.1
CCD	1.3	0	--	--	Dry	0	-	0	-
WFJRD	2.5	4	78.5	0	0.20-0.29	4	264	0.7	10.7
WFJRD	5.0	6	66.1	0.6	0.45-1.39	6	633	2.7	3.6
							25	1.0	
JCD	0.8	2	72.3	0	0.06-0.17	2	106	0.6	12.4
JCD	0.5	1	72.1	0	0.10	1	-	0	0
WFJRD	5.5	7	63.8	0	0.14-1.70	7	449	3.2	12.8
								0.5	
PCD	0.9	0	--	-	Minimal	0	-	0	-
BCD	1.1	0	--	-	Dry	0	-	0	-
WFJRD	1.0	2	61.4	0	0.13-0.25	2	-	0	14.4
Totals	46.6	58				57			

1. Drainage Abbreviations: BCD - Buck Creek
 CCD - Columbet Creek
 JCD - Jack Creek
 JRD - Jarbidge River-Idaho
 WFJRD - West Fork Jarbidge River

2. Species Abbreviations: BT bull trout
 RB redband/
 SC rainbow trout
 SC sculpin